

OPTICAL STRUCTURES AND METHODS
FOR CONNECTING OPTICAL CIRCUIT BOARD COMPONENTS

ABSTRACT OF THE DISCLOSURE

The present invention is directed to structures and methods of manufacturing such structures for providing optical connections between spaced-apart, opposing surfaces of substrates having optically active areas, that are compatible with semiconductor processing steps. An optical polymer layer is provided between opposing surfaces of a substrate and component or between two substrates to allow optical signals to pass therebetween and to bond the opposing surfaces. In one embodiment, the waveguide is formed from a photosensitive polymer that is patterned, cured and etched to provide the optical connection. In another embodiment, a photobleachable polymer is cured by light through a connected waveguide to provide a waveguide core.